

Listing of Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1-72. (Cancelled)

73. (Currently amended) A method of manufacturing an individual laser diode package to be used in a laser diode array, comprising:

providing a laser diode bar;

providing a heat sink having upper and lower portions, said heat sink having a heat sink height and a heat sink width, said heat sink width being that is less than said heat sink height;

providing an electrically insulative substrate, said electrically insulative substrate having a substrate width that is approximately equal to said heat sink width;

soldering said laser diode to said upper portion of said heat sink so as to leave a surface of said laser diode opposing said heat sink exposed; and

soldering said electrically insulative substrate to said lower portion of said heat sink.

74. (Original) The method of claim 73, wherein said soldering steps occur substantially simultaneously.

75. (Original) The method of claim 73, further including the step of adding a solder layer to said exposed surface of said laser diode opposing said heat sink.

76. (Original) The method of claim 73, further including the step of applying a solder layer to exterior surfaces of said heat sink.

77. (Original) The method of claim 76, further including the step of allowing said solder layer to solidify on said heat sink without contacting any other structure.

78. (Currently amended) The method of claim 76, wherein said steps of soldering said electrically insulative substrate and said laser diode include the steps of contacting said electrically insulative substrate and said laser diode to said solder layer of said heat sink and heating said heat sink.

79. (Original) The method of claim 78, further including the step of applying a solder layer to said exposed surface of said laser diode.

80. (Currently amended) The method of claim 79, wherein said solder layer on said exposed surface of said laser diode has a lower melting temperature than the solder used for said steps of soldering said laser diode and said electrically insulative substrate to said heat sink.

81. (Original) The method of claim 73, further including the step of cleaning said laser diode after said soldering steps.

82. (Original) The method of claim 81, wherein the step of cleaning said laser diode includes spraying acetone on reflective and emitting surfaces of said laser diode.

83. (Currently amended) A method of manufacturing a laser diode array having a plurality of individual laser diode packages, comprising:

providing a plurality of laser diode bars;

providing a plurality of heat sinks, each of said heat sinks having a bottommost surface and an uppermost surface;

providing a plurality of electrically insulative substrates;

developing each of said plurality of individual laser diode packages by,

soldering one of said laser diodes to one of said heat sinks at a location adjacent to said uppermost surface so as to leave a surface of said laser diode opposing said heat sink exposed, and

soldering one of said electrically insulative substrates to said bottommost surface of said heat sink; and

for each of said plurality of individual laser diode packages, soldering said exposed surface of said laser diode to a heat sink of an adjacent laser diode package.

84. (Original) The method of claim 83, wherein said soldering of said laser diode to said heat sink is with a solder having a higher melting temperature than said soldering of said exposed surface to a heat sink of an adjacent laser diode package.

85. (Original) The method of claim 83, further including the step of applying an array solder layer to said exposed surface of said laser diode.

86. (Currently amended) The method of claim 83, wherein said plurality of electrically insulative substrates are primarily composed of gallium arsenide.

87. (Original) The method of claim 83, wherein each of said laser diodes includes an emitting surface and a reflective surface, said emitting surface being generally parallel and adjacent to said uppermost surface of said laser diode.

88. (Original) The method of claim 87, wherein said emitting surface of said laser diode is substantially flush with said uppermost surface of said heat sink.

89. (Currently amended) The method of claim 83, wherein said soldering said laser diode to said heat sink and said soldering of said electrically insulative substrate to said heat sink uses the same solder.

90. (Original) A method of manufacturing a laser diode array having a plurality of individual laser diode packages, comprising:

developing each of said plurality of individual laser diode packages, including (i) soldering a laser diode to a heat sink having a height defined between an uppermost surface and a bottommost surface and (ii) attaching an electrically insulative substrate to said bottommost surface of said heat sink, said electrically

insulative substrate being associated with only one heat sink and for electrically insulating said heat sink from a metallic heat sinking structure to be located below said individual laser diode package; and
soldering said laser diode in each of said individual laser diode packages to a heat sink of an adjacent package.

91. (Original) The method of claim 90, further including the step of applying an array solder layer to an exposed surface of said laser diode, said soldering said laser diode in each of said individual laser diode packages to a heat sink using said solder layer.